

**UNITED STATES DISTRICT COURT  
WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

THETA IP, LLC.

*Plaintiff,*

v.

SAMSUNG ELECTRONICS CO., LTD.,  
SAMSUNG ELECTRONICS AMERICA,  
INC.,

*Defendants*

Case No. 6:20-cv-00160-ADA

**JURY TRIAL DEMANDED**

**DEFENDANTS' MOTION FOR SUMMARY JUDGMENT OF NON-INFRINGEMENT**

**TABLE OF CONTENTS**

	<b>Page(s)</b>
I. INTRODUCTION .....	1
II. BACKGROUND .....	1
A. The Asserted Claims .....	1
B. Theta’s Infringement Theory .....	3
III. Argument .....	4
A. The Accused Products Do Not Perform Certain Claimed Adjustments .....	4
B. The Accused Products Do Not Meet the “Worst-Case” Limitations.....	5
C. Summary Judgment of No Infringement on the ’202 Patent is Appropriate Because the Accused Products Do Not Perform the “Comparing” Step .....	6
IV. Conclusion .....	7

**EXHIBIT LIST**

<b>Exhibit</b>	<b>Description</b>
Ex. 1	Deposition of Theta's technical expert, Lawrence E. Larson, October 29, 2021.
Ex. 2	Expert report of Theta's technical expert, Lawrence E. Larson, regarding purported infringement, September 17, 2021

## I. INTRODUCTION

Theta cannot show that the accused products perform the bias adjustments of '962 Claim 1 and '202 Claim 13; meet the “worst-case” limitations of the '825 Patent claims 3 and 8, and '202 claims 7 and 13; or meet the “comparing” step of each of the '202 Claims.<sup>1</sup> Summary judgment of non-infringement is thus appropriate on all the Asserted Patents.

## II. BACKGROUND

### A. The Asserted Claims

A wireless transceiver consumes power when listening for and processing a signal, such as a desired phone call. The Asserted Patents are directed to methods for reducing power consumption when the received signal has certain characteristics related to the strength of “desired signal” and “interferer signals.” Based on whether the “desired signals” and “interferer signals” are “high” or “low,” the patents teach either increasing or decreasing the amount of power consumed in receiving the signal. To do this, the patents discuss dynamically changing bias current, impedance, or both to reduce power dissipation. The concept is encapsulated in the numbered clauses of '962 claim 1:

wherein the bias current and the impedance of the circuit in the receiver signal path of the wireless transceiver are varied according to the following:

- (i) when the signal strength of the interferer signal is high and the signal strength of the desired signal is low, the bias current of the circuit in the receiver signal path of the wireless transceiver is increased and the impedance of the circuit in the receiver signal path of the wireless transceiver is reduced, resulting in a first current drain;
- (ii) when the signal strength of the interferer signal is high and the signal strength of the desired signal is high, the bias current of the circuit in the receiver signal path of the wireless transceiver is increased while the impedance of the circuit in the receiver signal path of the wireless transceiver is increased,

---

<sup>1</sup> Theta has identified the following asserted claims: U.S. Patent No. 9,838,962 (“’962 Patent”), Claim 1; 10,129,825 (“’825 Patent”), Claims 3, 8; 10,524,202 (“’202 Patent”), Claims 7, 13 (collectively “Asserted Claims” and “Asserted Patents”).

resulting in a reduction in current drain when compared to the first current drain;

- (iii) when the signal strength of the interferer signal is low and the signal strength of the desired signal is low, the bias current of the circuit in the receiver signal path of the wireless transceiver is reduced and the impedance of the circuit in the receiver signal path of the wireless transceiver is reduced resulting in reduced current drain when compared to the first current drain; and
- (iv) when the signal strength of the interferer signal is low and the signal strength of the desired signal is high, the bias current of the circuit in the receiver signal path of the wireless transceiver is decreased<sup>2</sup> and the impedance of the circuit in the receiver signal path of the wireless transceiver is increased, resulting in a reduction in current drain compared to the first current drain.

For example, clause (iii) requires that when the desired signal is “low” and the interferer is “low,” the actions to take are to reduce bias current and reduce impedance. This has the effect of reducing power consumption compared to the “first current drain” of clause (i). At the minimum, in order to practice the invention, one must (a) determine the strength of the desired signal, (b) determine the strength of the interferer signal, (c) determine if the signals are “high” or “low”, and (d) make a defined change to bias current, impedance, or both.

The Asserted Claims also describe a specific case called the “worst-case power dissipation condition,” which is when the power dissipation (consumption) is at its highest.

Claims 3 and 8 of the ’825 Patent require:

wherein a worst-case power dissipation condition from the battery results when the signal strength of the desired signal is low and the signal strength of the interferer signal is high

To satisfy this element, Theta must prove that the receiver goes into the highest power consumption mode, *i.e.* the worst case, when the desired signal is low and the interferer is high.

---

<sup>2</sup> This word was changed from “increased” to “decreased” by certificate of correction.

## B. Theta's Infringement Theory

Theta's original complaint accused an old Qualcomm technology called "IntelliCeiver," allegedly built into current Qualcomm radio transceivers. D.I. 1 ¶ 51. [REDACTED] [REDACTED]. Theta then abandoned the IntelliCeiver theory a year into the case and shifted its accusations toward the Qualcomm automatic gain control ("AGC") function in the transceivers. AGC was well-known in the prior art, as acknowledged in the Asserted Patents and by Theta's expert. *See, e.g.*, '825 Patent Fig. 1 (RF AGC 166, BaseBand AGC 120), 3:62–64, 4:22–23; Ex. 1 (Larson Dep.) 41:25–42:19, 43:9–12, 45:2–4.

The specific flavor of AGC that Theta accuses is a proprietary Qualcomm algorithm called [REDACTED] [REDACTED]. *See* Ex. 2 (Larson Rep.) ¶¶ 67–68. [REDACTED] [REDACTED]. *See, e.g.*, Ex. 2 (Larson Rep.) ¶ 148.<sup>3</sup> According to Dr. Larson, [REDACTED] [REDACTED]. *See, e.g.*, Ex. 2 (Larson Rep.) ¶¶ 170, 174–75.

Importantly, there is no dispute that the [REDACTED] in all the Accused Products [REDACTED] Ex. 1 (Larson Dep.) 200:19–24. As explained in more detail by Theta's expert, [REDACTED] [REDACTED] *See, e.g.*, Ex. 2 (Larson Rep.) ¶¶ 67 ([REDACTED])

---

<sup>3</sup> An increased "gain state" corresponds to decreased gain.

[REDACTED], 132 ([REDACTED]  
 [REDACTED]), 147, 171–73, 527, 721; Ex.  
 1 (Larson Dep.) 201:7–9 ([REDACTED]  
 [REDACTED]), 724 (quoting internal Qualcomm design document). So, in sum:

[REDACTED]

Under the [REDACTED] formula, [REDACTED]  
 [REDACTED]. *See, e.g.*, Ex. 2 (Larson Rep.) ¶¶  
 172 ([REDACTED] ||),  
 374; Ex. 1 (Larson Dep.) 202:6–8 ([REDACTED]  
 [REDACTED]). [REDACTED]  
 [REDACTED]. Ex. 2 (Larson Rep.) ¶ 170.

### III. ARGUMENT

#### A. The Accused Products Do Not Perform Certain Claimed Adjustments

Several Asserted Claims require that bias current be increased when the interferer signal is high or decreased when the interferer signal is low. For instance, '962 Claim 1, clause (i) sets the “first current drain” when the receiver is in the Desired (Low) / Interferer (High) condition and requires a reduction in bias current when the transceiver moves to clause (iii), where the signals are Desired (Low) / Interferer (Low). '202 Claim 13 similarly requires an increase in bias current when the receiver is in the Desired (Low) / Interferer (High) condition.

The accused [REDACTED] algorithm, however, makes the opposite adjustment. Reducing the interferer signal from the high level in clause (i) to the low level in romanette (iii) [REDACTED]  
 [REDACTED]. Accordingly, as the receiver moves from clause (i) to (iii), [REDACTED]

[REDACTED]<sup>4</sup> – the opposite of what is required by '962 Claim 1. Similarly, under the condition recited in '202 Claim 13, [REDACTED]

[REDACTED]. For this reason, Theta cannot establish infringement, and summary judgment is appropriate on '962 Claim 1 and '202 Claim 13.

**B. The Accused Products Do Not Meet the “Worst-Case” Limitations**

Claims 3 and 8 of the '825 Patent require that “a worst-case power dissipation condition from the battery results when the signal strength of the desired signal is low and the signal strength of the interferer signal is high.” Claim 7 of the '202 Patent contains a worst-case limitation reciting the same low-high signal conditions. Claim 13 of the '202 Patent similarly requires that bias current be increased in response to the same Desired (Low) / Interferer (High) condition, defined in the specification as the worst-case power dissipation condition. Dr. Larson confirms that he treats this as the “worst case,” with his analysis on claim 13 citing back to the worst-case limitations of '202 claim 1 and '825 Claim 3. *E.g.* Ex. 2 (Larson Rep.) ¶ 265.

According to Theta's expert, worst-case power dissipation occurs in [REDACTED]. *E.g.*, Ex. 2 (Larson Rep.) ¶ 137, 143. Samsung agrees that [REDACTED]. So, in order to establish infringement, Theta must show that when the received signal exhibits low desired/high interferer conditions, the system [REDACTED].

Theta has produced no such evidence, and indeed, as discussed above, [REDACTED]

[REDACTED]. [REDACTED]  
[REDACTED]

---

<sup>4</sup> As explained above, [REDACTED]. *See, e.g.*, Ex. 1 (Larson Dep.) 200:19–24; Ex. 2 (Larson Rep.) ¶¶ 67, 132, 147, 171–73.



[REDACTED]. Dr. Larson was in agreement with respect to the operation of the system. *See, e.g.*, Ex. 2 (Larson Rep.) ¶¶ 171–72; Ex. 1 (Larson Dep.) 41:16–24, 201:7–9, 202:6–8 ([REDACTED]), 202:10–203:8 ([REDACTED]).

It is Theta’s burden to come forward with competent evidence to support its infringement claim. But Theta cannot meet its burden because the accused [REDACTED] algorithm works in the opposite manner of the claims. Summary judgment on ’825 Claims 3 and 8, and ’202 Claims 7 and 13 is therefore appropriate.

**C. Summary Judgment of No Infringement on the ’202 Patent is Appropriate Because the Accused Products Do Not Perform the “Comparing” Step**

Claims 7 and 13 of the ’202 Patent require “comparing the strength of the desired signal relative to the strength of the interferer signal.” Proof of the presence of this element would require showing (1) where the strength of the desired signal is determined, (2) where the strength of the interferer signal is determined, and (3) where those two values are compared, presumably at a particular place in the Qualcomm source code.

Dr. Larsen’s report provides no such disclosure. The closest he came in his report is a discussion of [REDACTED].” Ex. 2 (Larson Rep.) ¶ 212–14. But at his deposition, he acknowledged that this step merely determines the interferer signal strength and does not satisfy the rest of the claim limitation:

Q Okay. So in paragraph 213 of your report, none of the—none of the sentences there describe a compare of the signal strength of the desired signal to the signal strength of the interferer signal. Correct?

A So those—those words are—and once again, we are talking about 213. Right?

Q Of your report, correct.

A Yeah. No. That—that—that paragraph, 213, does not talk about comparing [REDACTED]—sorry—[REDACTED]. [REDACTED]

Ex. 1 (Larson Dep.) 360:5–17; *see also* Ex. 1 (Larson Dep.) 219:16–220:9, 221:10–25, 225:10–226:7, 229:24–230:9, 361:5–17, 361:18–362:8, 365:20–367:12.

Nor did Dr. Larson identify any other comparison in the accused products<sup>5</sup>:

Q · · So in section [d], spanning paragraphs 211 through 215, you have not shown what in the [REDACTED] show the compare of the strength of the desired signal to the strength of the interferer signal. Correct?

[objection]

A Yeah. In those paragraphs the—I have not explicitly shown a precise—not—I have not explicitly shown a comparison of the [REDACTED] and, to be honest, because I don't think it's necessary. [REDACTED]

Ex. 1 (Larson Dep.) 368:17–369:7.

Dr. Larson did not provide a basis in his report from which a reasonable jury could conclude that the comparing step has been met. Accordingly, summary judgment of non-infringement is appropriate on each claim of the '202 Patent.

#### IV. CONCLUSION

Summary judgment of non-infringement of all the Asserted Patents should be entered for Samsung for the reasons explained above.

---

<sup>5</sup> Dr. Larson's infringement analysis of the limitation "[d] *The S21 Accused Products compare the strength of the desired signal to the strength of the interferer signal*" spans paragraphs 211–15. Ex. 2 (Larson Rep.) ¶¶ 211–15. His analysis of this limitation for other claims that contain the term as well as for different products merely cite back to this section, or contain substantially the same analysis. *E.g., id.* ¶¶ 235, 263, 413–17, 437, 465, 614–18, 638.

Dated: November 12, 2021

Respectfully submitted,

By: /s/ S. Michael Song

S. Michael Song (CA State Bar No. 198656)

Michael Joshi (CA State Bar No. 302184)

michael.song@dechert.com

michael.joshi@dechert.com

DECHERT LLP

3000 El Camino Real

Five Palo Alto Square, Suite 650

Palo Alto, CA 94036

Telephone: (650) 813-4800

Martin J. Black (PA State Bar No. 54319)

Derek J. Brader (PA State Bar No. 312513)

martin.black@dechert.com

derek.brader@dechert.com

DECHERT LLP

Cira Centre

2929 Arch Street, Philadelphia, PA 19104

Telephone: (215) 994-4000

Ruffin B. Cordell (DC Bar No. 459780)

cordell@fr.com

FISH & RICHARDSON P.C.

1000 Maine Avenue, S.W., Suite 1000

Washington, DC 20024

Telephone:(202) 783-5070

Francis J. Albert (CA Bar No. 247741)

albert@fr.com

FISH & RICHARDSON P.C.

12860 El Camino Real, Suite 400

San Diego, CA 92130

Telephone:(858) 678-5070

Melissa R. Smith (State Bar No. 24001351)

melissa.gillamsmithlaw.com

GILLAM & SMITH, LLP

303 South Washington Avenue

Marshall, Texas 75670

Telephone: (903) 934-8450

**Attorneys for Samsung Electronics Co., Ltd.  
and Samsung Electronics America, Inc.**

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that the foregoing document was filed and received by all counsel of record using the Court's CM/ECF system on November 12, 2021.

/s/ S. Michael Song  
S. Michael Song